



MONTHLY REPORT
ON
THE PROGRESS OF THERAPEUTICS.

Edited for the Edinburgh Medical Journal.

No. IX.—May 1875.

BY

W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P.E.,

Licentiate of the Royal College of Surgeons of Edinburgh; Lecturer on Medical Chemistry in the Ledwich School of Medicine, Dublin; Corresponding Member of the Therapeutical Society of Paris; Hon. Member of the Ontario College of Pharmacy, etc.; Librarian to the Royal College of Surgeons in Ireland.

WELLCOME INSTITUTE
LIBRARY

Coll.	Wellcome
Coll.	
No.	

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

BY W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P. Ed., etc.

(Reprinted from the *Edinburgh Medical Journal* for May 1875.)

THE EFFECTS OF ALCOHOL.—The vexed question as to the value of alcohol as a medicine and as a food has of late been the subject of consideration by several eminent writers. The first number of the *New York Psychological and Medico-Legal Journal* contains a communication from Dr William Hammond on this subject. He undertook a series of experiments on himself to ascertain the influence of alcohol, when, 1st, the food taken was sufficient for the wants of the organism; 2^d, when it was insufficient; and, 3^d, when it was more than sufficient. The inferences which he draws are as follows:—When the supply of food is abundant, there are no special circumstances existing which render the use of alcohol advisable. When the quantity of food is not such as to allow the due performance of such physical or mental labour as may be necessary, or when the digestive or assimilative functions are not so efficiently performed as to cause the digestion and appropriation of a sufficient quantity of food to meet the requirements of the system, then the proper use of alcohol is to be commended. In the third series of experiments, in which more food was taken than was necessary, the ill effects of alcohol were well marked. Dr Hammond advances the following hypothesis:—“It is not at all improbable that alcohol itself furnishes force directly, by entering into combination with the first products of tissue-decay, whereby they are again assimilated, without being excreted as urea, uric acid, etc. Many of these bodies are highly nitrogenous, and, under certain circumstances, might yield their nitrogen to the construction of new tissues. Upon this hypothesis, and upon this alone, so far as I can perceive, can be reconciled the facts that an increase of force and a diminution of the products of the decay of tissue attend upon the ingestion of alcohol.”

Another American writer, Professor A. B. Palmer, of the University of Michigan, has a communication on this subject in the *Peninsular Journal of Medicine*. I am indebted for the following abstract of Professor Palmer's paper to Dr Ross's article in the *London Medical Record*, 13th Jan. He starts with the assertion of the late Dr Anstie, that about ten drachms of absolute alcohol may be taken in a diluted form by a healthy adult in the course of twenty-four hours, without producing any noticeable disturbance of the system, or any of it being capable of detection in the excretions. Dr Anstie also thought that, if it is not oxidized in the system, of which there is no actual proof, it must undergo some unknown

transformations by which a certain amount of force it set free. Professor Palmer urges as objections to these statements, that Du Roy and Perrin of Paris have averred that all the alcohol taken into the system is eliminated unchanged; and he thinks that our methods for detecting so small a quantity are so imperfect as to render it impossible to come to a reliable conclusion upon the point. And even admitting that such a transformation occurs, it does not follow that the latent force of the alcohol is converted into vital force. Also, the increased force, did it exist, would be more than counterbalanced by the narcotic action of the drug, which must have the same tendency in small as in large doses. He thinks that such theoretical arguments are not of much use either on the one side or the other; and that, in determining the question, we must have recourse to the observation of its effects upon the capacity for mental or bodily work. For proof of his position, he relies mainly upon the report of Professor Parkes, which appeared in the *Lancet* for August 1874, respecting the issue of spirit-rations in the late Ashantee war. The facts, separated from opinions, are as follow:—Of 24 total abstainers in the 42d Regiment, only 4 were ill during the whole campaign, and none of these more than once, while those who partook of the rations showed a much higher ratio of sick; the exact proportion being 1 to 6 of the former, and 4 to 6 of the latter. The difference was, no doubt, largely due to the previously more correct habits of the abstainers. In the Rifle Brigade, the ratio of admissions to the sick-list was 770 to 1000 strength, 574 being from fevers, and 196 from other causes. Of the abstainers the ratio was 400 to 1000, and all from fevers. All the witnesses testify against the utility of rum when given in the morning; but several spoke of its reviving effects when given at the end of the day. This illustrates the narcotic or anodyne power of the alcohol, but gives no evidence that it imparts even temporary strength. According to Dr Parkes, the experience of the Red River expedition "has produced a general belief that spirits were in all cases hurtful, or, at any rate, unnecessary in military service." In a hot, moist, enervating climate there is a desire for something to relieve the uncomfortable sensation produced by severe exertion; but Dr Parkes regards alcohol as the "most faithless of helps," and as a stimulant, and not as a renovator of exhausted tissues. Meat-extracts, on the other hand, act in great part by supplying to the muscles the material they want. What ground, then, have we for calling alcohol a stimulant, in the ordinary sense of that word, as that which increases vital action? And, if it does not supply materials to exhausted tissues, what grounds are there for calling it a food?

We have not space to refer at length to the admirable Cantor Lectures by Dr B. Ward Richardson; we will content ourselves, therefore, with a brief quotation, referring our readers to the *Journal of the Society of Arts*, in which these lectures are published. Dr Richardson says—"Firstly, I believe there is a certain determinable degree of saturation of the blood with alcohol, within which degree all the alcohol is disposed of by its decomposition. Beyond that

degree the oxidation is arrested, and then there is an accumulation of alcohol, with voidance of it, in the unchanged state, in the secretions.

"Secondly, The change of decomposition of the alcohol in its course through the minute circulation, in which it is transformed, is not into carbonic acid and water, as though it were burned, but into a new soluble chemical substance, probably aldehyde, which returns by the veins into the great channels of the circulation.

"Thirdly, I think I have made out that there is an outlet for the alcohol, or for the fluid product of its decomposition, into the alimentary canal through the secretion of the liver. Thrown into the canal, it is, I believe, subjected there to further oxidation—is, in fact, oxidized by a process of fermentation attended with the active development of gaseous substances. From this surface the acid product is in turn reabsorbed in great part, and carried into the circulation, and is disposed of by combination with bases, or by further oxidation.

"Here, however, I leave the theoretical point to revert to the practical ; and the practical is this, that alcohol cannot, by any ingenuity of excuse for it, be classified amongst the foods of man. It neither supplies matter for construction nor for heat. On the contrary, it injures construction, and it reduces temperature."

In *Virchow's Archiv*, Band 60, page 471, Dr Strassburgh has a paper on the effects of alcohol in fever. It appears that alcohol, like quinine, acts more powerfully in the febrile state, and its action is that of a depressor of temperature. He recommends that alcohol when administered should be given in the form of rectified spirit, diluted with water.

In a paper in the *Lancet* (19th Sept. 1874) on the comparative action of alcohol and absinthe, M. Magnan shows that the tendency of the latter is to induce epileptiform attacks.

PHYSIOLOGICAL ACTION AND THERAPEUTIC USES OF PROPYLAMINE.—Dr P. Cerasi has lately published a thesis on this subject. In his practice he has found that while chlorhydrate of trimethylamine is more remarkable for its sedative action on the nervous system, the chlorhydrate of amylamine more rapidly diminishes the temperature. Dr Cerasi has employed propylamine in fourteen cases of acute rheumatism with success, and he is of opinion that the drug acts beneficially in such cases, by acting as a narcotic and as a depressant on the cardiac and arterial dilatation. Cerasi has tried the chlorhydrate of trimethylamine in other affections, in which the indications of treatment are to moderate and regulate the circulation. He has thus beneficially treated four cases of imperfect cardiac innervation, two cases of hypertrophy, and one of dilatation. In a case of acute pericarditis treated by this drug, the pain was diminished, and the force of the pulsation lessened. In two cases of typhus, and one of typhoid fever, two cases of scarlatina, and one of malignant smallpox in the suppurative stage, the temperature was lowered by the use of this medicine. In two cases of pyæmia, the temperature was lowered, but in one of them the

temperature suddenly rose again, and the case terminated fatally. In a case of acute alcoholism, the temperature fell under the employment of chlorhydrate of amyamine.

ACTION OF QUININE ON THE NERVOUS SYSTEM.—In the Pharmaceutical Institute at Bonn, Heubach has recently been investigating the above subject. The preparation of quinine used was the slightly alkaline amorphous muriate. Heubach finds from his experiments, that small doses will cause exaltation and not lowering of the reflex excitability primarily, but subsequently it causes diminution of it owing to paralysis of the heart. Not only are the respiration and activity of the heart affected by very large doses, but vital activity, and consequently reflex excitability, are rapidly destroyed. Death from quinine is not due, in the first place, to a direct poisoning of the heart, but to paralysis of the respiration.—*Centralblatt*, No. 43.

INFLUENCE OF QUININE ON SUPPURATION.—Dr Douglas Morton, physician to the Louisville Hospital, U.S., records in the *Practitioner*, Nov. 1874, cases illustrative of the control exercised by quinine over suppuration. In gonorrhœa he used an injection consisting of two and a half grains to the ounce of water, with such success that he has rejected all other methods of treatment. He also records a case of empyema, of four months' standing, successfully treated by quinine injections. Every day, after cleansing the cavity with carbolic acid lotion, six grains of quinine dissolved in two or three ounces of water were thrown in and allowed to remain. Since the commencement of this treatment, the discharge of pus rapidly diminished, and no unpleasant odour was noticeable. Another experiment was made on a large ulcer of two years' standing, situated on the leg of an ill-nourished unhealthy woman of about 40 years of age, who was suffering from mitral lesion, which had already begun to cause œdema of the feet and ankles. Quinine was applied in benzoated zinc ointment in the proportion of ten grains to the ounce. After two or three days the suppuration had greatly diminished, the whole surface of the sore was covered with healthy granulations, and the healing process rapidly advanced. Another case of mammary abscess was also successfully treated by injections consisting of ten grains of quinine in an ounce of water.

QUININE AS AN OXYTOCIC.—Dr Blackwood states (*Philadelphia Medical and Surgical Reporter*, Jan.) that he has had unmistakable proofs of the power of quinine to excite the uterus to action. In cases in which quinine was administered to pregnant women who were suffering from ague, abortion was rapidly induced. He does not believe that intermittent fever predisposes to abortion, for in similar cases when arsenic was substituted for quinine, such accidents did not occur. Dr Blackwood has tried quinine in labour cases, and, although he found it to be uncertain in its effects, in some cases it acted as powerfully and as promptly as ergot.

